Abstract

A predistortion power amplifier architecture has a power amplifier which receives an input via an amplitude modulator and a phase modulator. A sample of the output of the amplifier and a sample of the input to the amplifier are applied to an adaptive pre-distorter subsystem. The adaptive pre-distorter generates a gain correction signal which is applied to the amplitude modulator and a phase correction signal which is applied to the phase modulator. This serves to predistort the input signal to the power amplifier to compensate for non-linearities in the power amplifier. A switching arrangement alternately couples a sample of the input and output of the amplifier to a first and a second envelope detector. The outputs of the envelope detectors are applied to a difference amplifier. The switching arrangement has a chopping action on the signals which helps to offset imbalances in the characteristics of the two envelope detectors.

CHDS01 WLEE 276379v1

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